

COMPUTER METHOD AND APPARATUS FOR DETERMINING
STATE OF PHYSICAL PROPERTIES IN A CHEMICAL PROCESS

ABSTRACT OF THE DISCLOSURE

Computer method and apparatus determines state of physical properties, i.e.
5 product quality, of a chemical manufacturing process. A steady state modeler provides
a rigorous steady state model of the process and instantaneous state of physical
properties. An estimator or inferential sensing member determines state of the physical
properties over time based on the steady state (instantaneous) values of the physical
properties. To that end, a dynamic model of the subject process is formed from the
10 steady state model. The computer method and apparatus may be part of a network such
that laboratory and sensor measured process data is made accessible by the steady state
modeler and the estimator, and the estimator provides process parameter values for
maintaining state of the physical properties. The network also enables online and user-
interactive access to the steady state model, the dynamic model and/or the parameter
15 values for enabling control of the subject process.

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